CHAPTER 2

DOD DATA ADMINISTRATION PROGRAM

A. DATA ELEMENT CONCEPTS

The concepts discussed in this chapter are fundamental to the development, identification, and definition of standard generic elements and standard data elements. This information provides a basis for understanding the development, approval, and maintenance procedures for generic elements and data elements.

B. DATA ELEMENT

1. ‘A data element is a basic unit of information having a name, meaning, and subcategories (data items) of distinct units and values. Through its name and definition a data element must convey a single, informational concept.

2. Data elements are derived from data entities and their attributes identified in data models. Each data element is the physical representation of a data model entity attribute.

3. A data element name consists of a prime word, a class word, and modifiers.

4. Any data element that has been identified as a functional data requirement in a validated, approved Component or functional data model, which can be related to the DoD data model, and is used by more than one application or information system will be standardized.

5. Any data element that has been prescribed by information system computer program specifications to support internal system processing requirements only, will not be standardized (e.g. logic flow control, counters, subscripts, “flags”).

6. All standard data elements must be documented in accordance with the DoD standardization procedures and naming conventions established in Chapter 3, below. There are five possible components of a data element:

a. Prime Word

(1) A prime word is the noun designation given to an entity identified in a data model. For example, a company may need to maintain information about customers, so an entity “Customer” could exist. The prime word for this entity would be called “Customer.” The prime word identifies the object to which the data element refers.

(2) Prime words are centrally controlled and maintained by the DoD DAd. Proposals for new prime words must be based on an explanation of the DoD Data Model and submitted through the appropriate Component or Functional Data Administrator to the DoD DAd for approval. Words used as prime words in some data element names may be used as modifiers in other data element names.

b. Prime Word Modifier

Prime word modifiers are adjectives which further refine and categorize the prime word. They designate the name of a data subentity in the data model and distinguish it from other subentities of the same data entity. They are needed to distinguish that data subcategory from other subcategories of data represented by the data entity. For example, a company may be interested in information about two distinct groups of customers, “Retail Customers” and “Wholesale Customers.” The prime word modifiers “Retail” and “Wholesale” are used to distinguish between these two types of customers

c. Class Word

(1) A class word is a noun that prescribes a definition for a general category of data. A class word designates the category of data into which a data element fits. Examples of class words are: “Code,” “Name,” and “Quantity.”

(2) Class words are centrally controlled and maintained by the DoD DAd. DoD class words are listed in Appendix A, below, together with Figure A-1 to assist in class words selection. Proposals for new class words must be submitted through the appropriate Component or Functional Data Administrator to the DoD DAd for approval. Class words are restricted and cannot be used as prime words or modifiers in a data element name.

d. Class Word Modifiers

A class word modifier is a word (adjective) that is used to further refine or describe a class word, When used, a modifier must distinguish one data element from another and normally will narrow the range of the allowable values established by a class word.

Example: Month Name

Here, “Month” is modifying the class word “Name” and restricts the possible range of values from all possible names of anything to names of months.

e. Property Modifiers

The second group of modifiers that may occur in a data element name are between the prime word and the class word modifiers. They are property modifiers. They result directly from the attributes of a data model entity and further refine the prime word, or the class word, but do not dictate the structure (maximum size or data type; e.g., real, integer, character) of the data element. Normally, they are modifiers to the generic element, discussed in Section C., below.

Example: Carrier Destination Geographic Location Code

Here, “Carrier” is the entity, and the property modifier is “Destination.” While “Destination” does further modify “Geographic Location Code,” it should not be merged to form a new generic element because “Destination” does not restrict the domain or structure of “Geographic Location Code.” (See subsection C. 1., below.)

C. GENERIC ELEMENT

1. A generic element is the part of a data element that establishes a structure (maximum size/length and data type) and limits the allowable set of values of a data element. A generic element has no functional or application context other than to define a general class of data and ensure consistency in structure and domain. The domain (permissible set of values) of a generic element maybe specific or general.

2. Each data element must include one and only one generic element to identify the class of data and the allowable values that may represent the data element. A data element may use all or part of the generic element domain, but may not exceed the domain.

3. A generic element consists of a class word and, if necessary, modifiers.

Example:

The data element “individual Citizenship Month Code” in which the generic element **is** “Month Code.”

Data element name:	Individual Citizenship Month Code
Data element domain:	01- January 02- February 03- March etc.

4. A genetic element may consist of only a class word. (i.e., a single word generic element that establishes the structure and range of values for a data element). For example the single word generic element “Name” consists only of a class word and is defined as: “A designation of an object or entity expressed in a word or phrase.” The established domain for the generic element “Name” or a subset of that domain can be used to form many data elements.

Example:

Generic element name:	Name
Generic element domain definition text	A general domain comprised of the alphabetic characters in the ASCII character set.
Data element name:	Individual Eye Color Name
Data element domain definition text:	A specific domain comprised of the ASCII characters: A-Z

Data element domain value identifier	Blue Brown Gray Green Hazel

D. DOMAIN

A domain is a set of valid data values approved for use with generic element or a data element. Domains for generic elements and data elements must be approved by the data steward (a designated FDAd) of the element. A domain can be either specific or general.

1. Specific Domain

A specific domain has a finite definition and an enumerable set of data representations as shown in the example below. A specific domain is defined by naming the acceptable values allowed in a prescribed set of data representations.

Example

Data element name:	Individual Eye Color Name
Data element domain value identifier	Blue Brown Gray Green Hazel

2. General Domain

A general domain has a broad definition and a large (possibly infinite) set of acceptable values that cannot be enumerated within reason. A general domain is described by establishing a set of possible values, but does not list all the possible values. Certain values or characters maybe restricted. An example of a general domain is shown below.

Example:

Data element name:	Individual Pulse Rate
Data element domain definition text:	A general domain comprised of the ASCII charters O-9.

E. METADATA

1. Data elements have definitive characteristics that quantify, identify, or describe a representational, administrative, or relational concept. Metadata are data about data. In the context of data elements, metadata are data (or facts) about data elements or generic elements.

2. Generic elements and data elements are maintained in the DDRS and are described by metadata. For example, generic elements and data elements and data elements have names, definitions, and domains. Unit of measure, e.g., feet, tons, miles per hour, etc., is also a characteristic of a data element and such is an item of metadata.

3. A list and description of DDRS metadata is provided in Appendix B.

F. DATA ELEMENTS STANDARDIZATION PHASES

Generic elements and data elements evolve through the following standardization phases (prime words and class words have corresponding phases)

1. Developmental. Generic elements and data elements that have been created but not yet been released by the originator for standardization review. The requirement for a data element is normally identified during data modeling or through analyzing new functional requirements such as those required by new legislation. (See Chapter 3, below.)

2. Candidate. Generic elements and data elements that have been submitted by the Logistics Functional Data Administrator (FDAd) or Component Data Administrator (CDAd) for formal review. (See Chapter 4, below.)

3. Approved. Generic elements and data elements that have been coordinated through the standardization process as specified in Chapter 5.

4. Disapproved. Generic elements and data elements that have been coordinated through the standardization process specified in Chapter 5, and whose use has been disapproved.

5. Modified. Generic elements and data elements that were previously approved and are currently being considered for change. Theses elements go through the same formal review as candidate standard generic and data elements. (See Chapter 6, section C.)

6. Archived. Generic elements and data elements that were formerly approved, but are no longer needed to support the information needs of the Department of Defense. (See Chapter 6, section D.)